Standard Precautions for Infection Control in Shelter Settings

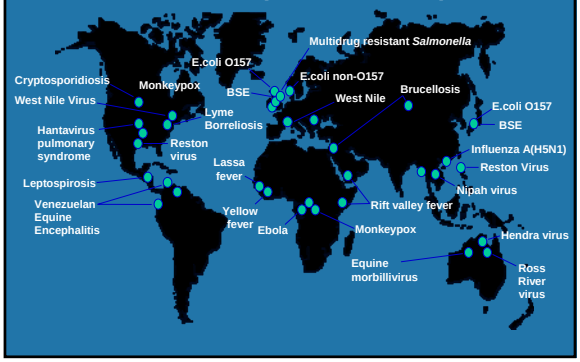
Adapted from the National Association of State Public Health Veterinarians Compendium of Veterinary Standard Precautions 2006

Bryan Cherry, VMD, PhD
bxc05@health.state.ny.us

NASPHV Compendium

- ***Compendium of Veterinary Standard Precautions: Zoonotic Disease Prevention in Veterinary Personnel***
  - Focus on prevention of transmission of zoonotic pathogens from animal patients to veterinary personnel in private practice
  - Does not address other settings specifically, but precautions are appropriate for many settings
  - Full document at http://www.nasphv.org/documents.html

Emerging and Re-emerging Zoonoses 1996-2004 (Source: WHO)



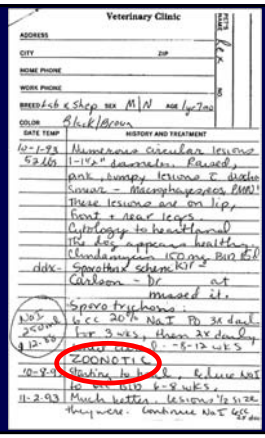
75% of Emerging Infectious Diseases are Zoonotic

The Risk is Not Only from Exotic or Emerging Diseases:

Veterinary and shelter personnel are also at risk for contracting endemic zoonotic infections

- Salmonellosis
- Plague
- Sporotrichosis
- etc.

SPOROTRICHOSIS →



Sporotrichosis Among Veterinary Staff

Of 37 people who acquired sporotrichosis from cats, 23 were veterinarians or veterinary assistants.

-Dunstad et al; 1995. Zoonosis Updates Second Edition; Am. Vet. Med. Assoc.

From Clinkenbeard KD. Diagnostic cytology: sporotrichosis. *Compend Contin Educ Pract Vet* 1991;13:207-211.

Veterinary Standard Precautions

Standard Precautions are a set of procedures and behaviors designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in veterinary clinics

In addition, veterinary standard precautions include routine prevention of bites and scratches and other trauma induced by veterinary patients

Routes of Transmission

- 3 routes of transmission used by pathogens to gain entry into the human host:
  - The oral route
  - The respiratory route
  - The cutaneous-mucous membrane-corneal route
- Standard precautions are based on interrupting these routes of transmission



Hand Hygiene

- Wash hands after touching blood, body fluids, feces, secretions, excretions, and contaminated items
- Wash hands between patients
- Wash hands after removing gloves

Correct Handwashing Technique

- Wet hands with running water
- Place soap in palms
- Rub together to make a lather
- Scrub hands vigorously for 20 seconds
- Rinse soap off hands
- Dry hands with a disposable towel.
- Turn off the faucet by using a disposable towel

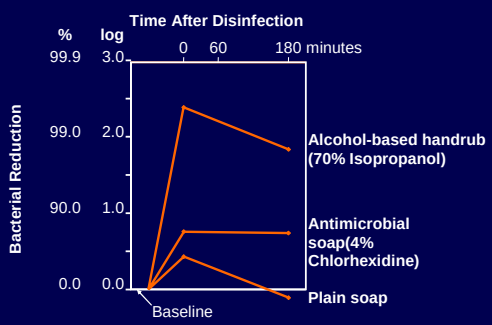
Handwashing

- Handwashing with plain soap and running water mechanically removes soil and reduces the number of transient organisms on the skin
- Antimicrobial soap kills or inhibits growth of both transient and resident flora

Instant Hand Sanitizers

- Waterless
- Immediate action
- Some contain emollients
- Instant hand-sanitizers effective if hands are not visibly soiled
- Not effective against protozoan parasites and non-enveloped viruses

Ability of Hand Hygiene Agents to Reduce Bacteria on Hands



Adapted from: *Hosp Epidemiol Infect Control*, 2nd Edition, 1999

Use of Gloves

- Wear gloves when touching feces, blood, body fluids, exudates, mucous membranes, and non-intact skin
- Wear gloves to clean cages
- Remove promptly after use and wash hands
- Change gloves between tasks and procedures on the same animal after contacting highly contaminated materials
- Do not wash gloves; use with single animal

Face Protection

- Use a mask and goggles, or face shield during procedures that are likely to generate splashes or sprays of blood, body fluids, or exudates
  - Cage cleaning with hoses, pressure washers

Bites and Trauma

- In 2001, 16,476 bites were work-related; 7.9% of bites in persons > 16 years old
- Bites are an accepted part of the job in certain occupations (utility, delivery and postal workers; animal shelters, veterinary clinics, animal control officers)

- MMWR July 4 2003; 52 (26) 605-610

Commonly Isolated Microorganisms from Clinically Infected Dog and Cat Bite Wounds

- Aerobes
  - *Pasteurella multocida** (cats)
  - *Pasteurella canis** (dogs)
  - *Streptococcus**
  - *Staphylococcus**
  - *Moraxella*
  - *Corynebacterium*
  - *Neisseria*
- Anaerobes*
  - *Fusobacterium*
  - *Bacteroides*
  - *Porphyromonas*
  - *Prevotella*
- Rare invasive pathogens
  - *Capnocytophaga canimorsus*
  - *Bergeyella zoohelcum*
  - *Bartonella henselae*

* Empirical therapy should be directed against these organisms

Bite and Trauma Prevention

- Safety first!
- Whenever possible don't allow people to hold their own pets
- Consistently use muzzles, cat bags, drugs, or whatever it takes to prevent bites
- Eliminate a common culture among veterinary technicians that they should put themselves at risk to prevent veterinarians from being bitten

Rabies Vaccination

- Veterinary and shelter staff should be pre-exposure vaccinated for rabies
- 3 IM rabies vaccinations given on days 0, 7, and either 21 or 28
- Test titer every 2 years; a single booster rabies vaccination is given if titer drops below 1:5 by the RFFIT test
- If exposed to rabies, two rabies vaccinations are given on days 0 and 3 (no human rabies immune globulin; no titer)

CDC Advisory Committee on Immunization Practices, 1999

Other Important Environmental Controls

Isolation

- For animals with suspected or confirmed communicable diseases
- At least caging apart from others, preferably separate room(s)
- Isolation room ideally has:
  - Water source for handwashing
  - Staging area for donning, doffing PPE
  - Separate air handling (at a minimum, the room is apart from the common traffic flow)

Written Infection Control Plans

- Even if you don't think you'll need it!
- Provides standards and accountability for training, disinfection procedures, use of PPE, reporting of incidents
- See sample in Appendix D of the Compendium (tailored to vet clinics, but can be modified)
- A modifiable electronic version available on NASPHV website www.nasphv.org

Model Infection Control Plan for Veterinary Practices, 2006

National Association of Public Health Veterinarians (NASPHV)
Veterinary Infection Control Committee (VICC)

This model plan should be adapted to your practice in keeping with local, state and federal regulations. A modifiable electronic version is available on the website of the National Association of State Public Health Veterinarians at www.nasphv.org. Please refer the corresponding sections in the full Compendium of Veterinary Standard Precautions for complete information and guidance (also available at www.nasphv.org).

Clinic: __Watertown Veterinary Clinic_____

Date of Plan Adoption: ___10/30/2006_____

Date of Next Review: ___10/2007_____

Infection Control Officer: ___Dr. Brigid Elchos_____

This plan will be followed as part of our clinic's routine practices. The plan will be reviewed at least annually and as part of new employee training.

PERSONAL PROTECTIVE ACTIONS AND EQUIPMENT

Hand Hygiene: Wash hands before and after each patient encounter and after contact with blood, body fluids, secretions, excretions or articles contaminated by these fluids. Wash hands before eating, drinking or smoking; after using the toilet; after cleaning animal cages or animal care areas; and whenever hands are visibly soiled. Alcohol-based gels may be used if hands are not visibly soiled, but handwashing with soap and running water is preferred. Keep fingernails short. Keep handwashing supplies stocked at all times. Staff responsible __Jane Smith CVT_____.

Standard Precautions Are…

Standard precautions are whatever minimum precautions are necessary, depending on the situation, to protect ourselves and others from zoonotic agents

Summary

- **You won't immediately recognize animals infected with zoonotic diseases**
- **We have an obligation to keep our personnel safe**
- **Shelters can improve infection control by educating staff and establishing infection control protocols.**